

REMARKS/ARGUMENTS

Applicant's attorney thanks Examiner Jack Keith for his time, courtesy and assistance during an interview conducted on October 19, 2006, at the United States Patent and Trademark Office. That interview is documented in a USPTO form PTOL-413 that is of record in the present application and the substance of that interview will be reflected herein.

Claims 1-14 have been canceled from the present application and a new claim 15 has been added. Accordingly, the Election/Restrictions addressed in paragraphs 1-8 of the identified Office action no longer apply and their withdrawal is respectfully requested. It is also submitted that the rejections of claims 1-4 under 35 U.S.C. §112, first paragraph, and 35 U.S.C. §112, second paragraph, have been overcome by the claims amendment and withdrawal of the §112 rejections, noted in paragraphs 14, 16 and 17, is also respectfully requested.

During the October 19th interview, U.S. Patent No. 5,992,479 and U.S. Patent Application Serial No. 09/137,911 were discussed. The '911 application was cited and incorporated by reference into the '479 patent¹. The '911 application is noted in the '479 patent as "disclos[ing] a technique for extending the reference port of a switch mechanism to the spout nozzle so that the sensing port and the reference port both

¹ In my co-pending application entitled "EQUALIZING FUEL NOZZLE SHUT-OFF MECHANISM", Ser. No. 09/137,911 filed on even date herewith, I disclose a technique for extending the reference port of a switch mechanism to the spout nozzle so that the sensing port and the reference port both communicate with the same volume of air surrounding the nozzle spout. There is no reference port in the embodiment of FIG. 6 since the chamber of the housing connected to each of the sensing ports in effect serves as the reference port for the other. But the embodiment of FIG. 5 has two reference pressure ports 12b and 18b, and they can be extended to the spout nozzle as disclosed in my co-pending application which is hereby incorporated by reference. See column 4, lines 52-65.

communicate with the same volume of air surrounding the nozzle spout," see column 4, lines 54-58. A copy of the file history for the '911 application, which is unavailable on PAIR, was ordered and a copy is enclosed* for the convenience of the Examiner. Review of the '911 file history shows that an Office action was mailed 8/2/99 but not responded to prior to the application being abandoned. The 8/2/99 Office action cited U.S. Patent No. 3,946,773 to show an automatic dispensing nozzle that uses the pressure inside a fuel tank as a reference pressure to actuate a shut-off diaphragm rather than using atmospheric pressure, see the '773 patent Abstract.

The '773 patent addresses a problem that can occur when vapor is recovered from vehicle tanks as they are filled using fuel dispensing nozzles that have an automatic shut-off feature. As noted in column 1 of the '773 patent, a frequent malfunction is that the nozzle will not shut off properly. Such malfunctions occur when a liquid slug blocks a fuel tank fill pipe, or when there is a blockage in the vapor return line which is coupled to a vapor passage in a collection device. When one of these conditions occurs, pressure builds up in the vehicle fuel tank and this pressure is reflected on the front side of a shut-off diaphragm via an air duct that opens at the end of the nozzle spout. The built up pressure holds the automatic shut-off mechanism in the fuel valve open position. The nozzle cut-off response time then becomes very slow, possibly so slow that shut-off occurs only after liquid fuel has been pushed out around a seal, onto the service station driveway and upward into the vapor return line. This type of nozzle malfunction defeats the main purpose of vapor recovery which is the reduction of air pollution.

In the '773 patent, this problem is solved by venting the backside of the shut-off diaphragm to tank pressure. As illustrated in Fig. 3, a pressure balance line 38 is

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connected from the reference side of the shut-off diaphragm to the vapor return line 37 which runs around the nozzle to a suitable vapor recovery system.

The Examiner is requested to review U.S. Patent No. 5,992,479; U.S. Patent Application Serial No. 09/137,911; and, U.S. Patent No. 3,946,773, which are cited in a Supplemental Information Disclosure Statement (Supp IDS) filed and enclosed* herewith.

A substitute specification and drawings submitted via mail on February 16, 2006, and support for the changes made to the specification were discussed during the October 19th interview. During that interview, Examiner Keith noted that the present application was mis-classified and should have been classified in class 141. To simplify this stage of prosecution, the substitute specification and drawings, which were not entered in the present application as noted in paragraph 9 of the identified Office action, have not been resubmitted at this time. After claim 15 has been allowed or if further prosecution of this application is required, applicant contemplates filing a continuation application including a new specification and drawings. In the event a continuing application is filed, applicant requests that the continuing application be transferred to class 141 for further prosecution as suggested by Examiner Keith.

With regard to the Requirements For Information:

(iii) Related information: Applicant encloses* as Exhibit A herewith a copy of a four page Invention Disclosure Data Sheet (IDDS) that was written up for the invention of the present application. The closest prior art is identified on the second page of the IDDS.

(iv) Information used to draft application: From a review of the application as originally filed as U.S. Provisional Patent Application Serial No. 60/461,097, it is

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apparent that the IDDS served as the basis for the provisional application. With regard to the present application, it is apparent that U.S. Patent Application Serial No. 10/684,051, now U.S. Patent No. 6,810,922, was also used to draft the application.

(v) Information used in invention process: The recognition of the problem and the state of the art as set out in the IDDS.

(viii) Technical information known to applicant: Reference is made to the above paragraphs regarding U.S. Patent No. 5,992,479; U.S. Patent Application Serial No. 09/137,911; and, U.S. Patent No. 3,946,773 and the enclosed Supplemental Information Disclosure Statement.

The prior art canceled in the original application was taken from U.S. Patent Application Serial No. 10/684,051, now U.S. Patent No. 6,810,922, or believed to be inaccurate and/or confusing. The material from the '051 application was believed to be redundant in view of the '051 application and the '922 patent; however, these materials have been restored to the application since the substitute specification and drawings were not entered in the present application as noted in paragraph 9 of the identified Office action.

If additional information is required, applicant will provide that information upon further request.

The rejection of claims 1-4 under 35 U.S.C. §102(b) has been overcome in view of the cancellation of these claims from the present application. With regard to U.S. Patent No. 6,095,204 (Healy), it is respectfully submitted that Healy is not relevant to the present application. More particularly, the diaphragm 204 is used to control vapor flow through Healy's nozzle and is not a shut-off diaphragm as required in the only

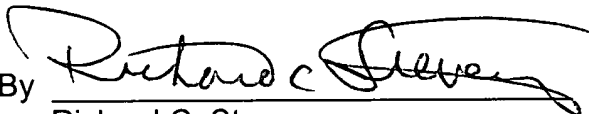
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remaining claim, claim 15, of the present application. Further, diaphragm 204 is deflected by the pressure of fuel in the nozzle².

In view of the above amendments and remarks, it is respectfully submitted that claim 15, the only claim now pending in the present application, is in condition for allowance which is requested.

Applicant's attorney again thanks Examiner Keith for the October 19th interview and respectfully requests that Examiner Mancho or Examiner Keith contact him regarding any further questions.

Respectfully submitted,
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*Enclosures

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² The gasoline pressure in chamber 114 causes gasoline to flow through filter screen 227 and opening 218 into chamber 220, thus producing a force against the piston 222 and the attached rolling diaphragm 204. Movement of the piston 222 is resisted by compression spring 224, which is designed to hold o-ring 206 in sealing contact with the valve seat 226 defined by the housing 200 until the gasoline pressure reaches 2 psi. The vapor return pathway between the spout assembly 14 and the external vacuum source is therefore positively sealed unless the main valve 120 has been opened to permit gasoline flow and there is fuel pressure available in the hose to produce sustained flow. See column 9, lines 18-29.